



**Comments of the Natural Resources Defense Council
On the Draft Recommendations of the
Joint Outreach Team
U.S. Department of Energy and Western Area Power Administration
January 22, 2012**

NRDC is a national, non-profit organization of scientists, lawyers, and environmental specialists, dedicated to protecting public health and the environment. Founded in 1970, NRDC serves more than one million members, supporters and environmental activists with offices in New York, Washington, Los Angeles, San Francisco, Chicago and Beijing. NRDC has a long history of advocacy promoting the increased use of energy efficiency and renewable energy sources to meet America's energy needs both at the national level and in various states, including California.

NRDC has been an active participant in efforts to facilitate the development of renewable energy resources and transmission infrastructure in response to climate change. We have participated in state, regional and federal resource zoning, siting, planning and policy development efforts. We have represented environmentally concerned stakeholders on regional and state transmission and generation planning, approval, and siting efforts before FERC, WECC, and CAISO, at the New Mexico RETA, Wyoming Infrastructure Authority, Bureau of Land management (BLM), DOE, and other state and local authorities. NRDC has and continues to collaborate with other regional entities including the Western Governors Association, Western, Bonneville Power Administration (BPA) and subregional planning organizations such as CAISO, WestConnect, Columbia Grid and Northern tier Transmission group (NTTG). We have worked with Western on the TIP project and provided both written and oral testimony to DOE and before the JOT at workshops throughout the region on ways in which PMA coordination with the rest of the grid can yield benefits to both preference customers and the public who created, support and benefit from PMA programs.

NRDC collaborated with the Western Grid Group in creating and releasing a Clean Energy Vision *Western Grid 2050 Contrasting Futures, Contrasting Fortunes* report detailing grid improvements, shifts in generation to clean energy resources that in combination reduce the CO2 emissions from the West's energy sector by 80% by 2050. These recommendations, which informed our comments on the Secretary's memo, are cognizant of the massive investment and significant operational improvements in the electricity system that will be needed to accomplish the climate goal the Clean Energy Vision set forth. It also recognizes existing mandates, such as renewable portfolio standards in almost all western states, and anticipated others such as EPA Clean Air and CO2 rules and FERC Orders 1000 and 764 which require regional planning and cooperation on infrastructure choices and cost allocation, and the integration of large amounts of variable renewable energy generation respectively.

Unfortunately the Draft Recommendation treats these issues and carbon reduction somewhat superficially. The Draft recommendation suffers as a result in that key drivers forcing system improvements and altering the generation mix across the interconnection are insufficiently considered.

The Draft Recommendations of the JOT does however recognize that Western's transmission system will need to evolve and change in order to meet expectations that it deliver services effectively and efficiently. But JOT recommendations to actually adopt improvements are scarce. As the grid around Western changes to reflect a diversifying and lower carbon generation mix, so too will Western's system need to improve and change to keep pace. These improvements should not infringe on the traditional missions of Western, nor are they in conflict with the beneficiary pays principles that have guided it (FERC Order 1000 requires this in fact). Western's grid upgrades should be seen as part of an overall modernization investment (*Western Grid 2050* estimates that \$200 billion or more will be invested in Transmission infrastructure through 2050) already underway in the Western Interconnection.

Reliability changes mandated in response to the fall, 2011 southwest blackout are at least complementary to and at best the same as many of the measures needed to make Western's system inter-operable with the rest of the grid. Improved situational awareness, shared information and control and across-BAA visibility are not inconveniences, they are necessities. Postponing these changes, and the infrastructure and operational enhancements that come with them in favor of further study is not in our judgment prudent on the part of Western. Indeed, as the Draft Recommendations show, Western (and other PMAs) have already begun considering many needed changes including: sub-hourly scheduling; closer coordination with neighboring BAAs; a potential role in energy imbalance markets; FERC required regional and interregional planning, and control area coordination and consolidation among others. Opposition to many of these reforms by PMA preference customers is in this context extremely perplexing. Do they really need more study? Planning for their orderly implementation? Yes. Studying them to death... no.

NRDC views the Draft Recommendations as a positive step forward but is disappointed with the lack of definitive action that had been contemplated in the original March 16, 2012 memorandum on grid coordination from the Secretary of Energy.

The Draft Recommendations State:

To support the long-term vision outlined in Western's Strategic Plan and contemplated in the following recommendations, it is important that an enterprise planning process is in place to identify necessary future resources and prioritize long-term strategic planning activities, including:

Identifying, studying and implementing Western mission-related grid coordination, optimization, and consolidation of applications and best business practices

Supporting ongoing studies and recommendations that Western standardize its automation tools and other initiatives that incrementally and collectively contribute to grid reliability, resource optimization, cost management, potential revenue enhancement, and ways to

incorporate new aspects of doing business incorporating policies and industry trends in long-term strategic planning contexts that ensure long-term viability and relevance and contribute to strengthening America's energy security, environmental quality and economic vitality

Collectively, these three elements provide for thoughtful, long-term strategies that account for regional differences where necessary, encourage the use and deployment of standardized tools and processes where those differences are not material, develop an organization architecture that is flexible, and allow for cost-effective oversight and management of technology tools and resources within Western to ensure a robust, mission-focused organization for the future.

Recommendation: NRDC views the above as prudent steps but urges Western to go beyond studying trends to adopting system improvements consistent with measures and practices being employed in neighboring parts of the western grid as they become available. As part of this effort Western could take a more active role in interconnection-wide planning at WECC.

The Draft Recommendation states:

Western currently is participating in the WECC RBC field trials and will evaluate ADI and will implement FERC Order 764 intra-hour scheduling. A natural next step is to study DSS to determine its impact on RBC and ADI and benefits to the BA and marketing. Lastly, Western should continue to analyze various energy imbalance market initiatives to fully understand impacts and benefits associated with the different alternatives. Implementation and evaluation of RBC, ADI, DSS and intra-hour scheduling could accomplish some of the benefits of the energy imbalance markets initiatives. Therefore, energy imbalance market initiatives would continue to be studied, but their potential implementation would not be undertaken before the benefits of the other initiatives, such as ADI, RBC, DSS and intra-hour scheduling have been fully evaluated.

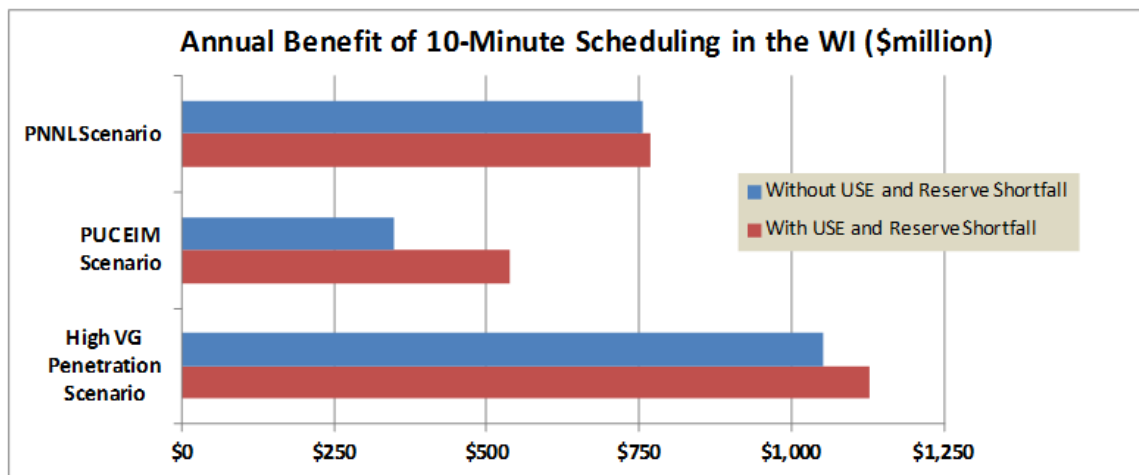
Comment: NRDC strongly supports evaluating a suite of improvements even as it implements FERC Order 764 requirements for intra-hour scheduling. The financial benefit of sub-hourly scheduling, as estimated by WECC's Variable Generation Subcommittee could reach as high as \$1 billion a year across the interconnection's footprint. But this is only part of the story. Other measures, including an energy imbalance market, create opportunities for Western to further take advantage of cost efficiencies and better utilize its existing infrastructure.

Recommendation: NRDC urges Western to consider the benefits of an EIM *in addition to* sub-hourly scheduling, ADI, RBC, DSS and not *instead of*. This is not an either-or choice. Another PMA, Bonneville Power Administration through its membership in the Northwest Power Pool, is considering a suite of tools *in combination with* an EIM. We believe Western should approach this in a similar fashion. Marketing imbalance energy in no way precludes other grid efficiency measures such as intra-hour scheduling. In addition, as ADI and DSS all have already proven to be technologically feasible and financially advantageous, it would be prudent for Western to move expeditiously to implementation to benefit its customers.

Order 764 Compliance

Draft Recommendation states: Pursuant to FERC Order No. 764 (Integration of Variable Energy Resources (VER)), Western BAs/sub-BAs should work with regional reliability organizations, Western regional offices, customers, tribes, and stakeholders to coordinate the implementation of intra-hour scheduling consistent with neighboring utilities, including the implementation of 15-minute scheduling.

Comment: NRDC strongly supports the rapid implementation of 15 minute scheduling across the entire western Interconnection, and applauds this draft recommendation that Western participate within the FERC Order 764 timeline. Recent studies at WECC's Variable Generation Subcommittee have shown enormous cost savings from sub-hourly scheduling in 10 minute increments (up to \$1 billion a year). Substantial financial benefits could be reasonably expected by Western's customers and the public from a 15 minute scheduling regime. As noted in the Draft recommendation *"Intra-hour scheduling would enable transmission customers to align transmission schedules with actual generation output more effectively, reduce the need for expensive operating reserves, and provide for greater system flexibility by utilizing available resources in a more efficient manner."* Intra-hour scheduling (15 minutes and less) also reduces the forecast error for variable generation resources, enabling more economic unit commitments and better utilizing balancing resources, which further reduces costs. Modest scheduling improvements already implemented at BPA (30 minute as opposed to hourly scheduling) have already demonstrated the substantial benefit of shorter scheduling intervals. Bonneville reduced balancing reserves by 34% in implementing this change. This experience, alongside the WECC Variable Generation Subcommittee (high variable generation penetration scenario) analysis mentioned above, *Balancing Authority Cooperation Concepts to Reduce Variable Generation Integration Costs in the Western Interconnection* shows that substantial additional benefits from even shorter scheduling increments are to be expected.



Source: WECC Draft VGS report: *Balancing Authority Cooperation Concepts to Reduce Variable Generation Integration Costs in the Western Interconnection*, November 2012

In conclusion, NRDC supports the Draft Recommendations as a starting point for more substantive action on the part of western to modernize and harmonize its operations with the

rest of the electricity grid. We are disappointed more direct actions as opposed to continued studies were not recommended, and believe the final recommendations should focus more on implementing changes in concert with the rest of Western's neighbors and in accordance with FERC requirements for jurisdictional entities it regulates. The future of the grid is a more flexible, inter-operational system. The faster we move in this direction, the sooner Western's customers and the public will take advantage of the financial and reliability benefits these changes will provide.

Respectfully submitted:

A handwritten signature in blue ink, reading "Carl Zichella". The signature is fluid and cursive, with the first name "Carl" and last name "Zichella" clearly distinguishable.

Carl Zichella
Director of Western Transmission
NRDC
111 Sutter Street, 20th Floor
San Francisco, CA 94104
czichella@nrdc.org
(916) 837-7127